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INTERVIEW WITH ASTRONAUT NEIL ARMSTRONG

By William J. Cromie

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Q. What situation are you in with Apollo 11 now? Got a firm training schedule all worked out?

A. Well, we're in the process of attempting to get a mission plan delineated in as much detail as we can, and procedures formatted. We are making a big effort to get them to compare as closely as we can with the Apollo 8, 9 and 10 procedures so we can take the most use we can of what they're doing. And, then of course when Apollo 9 goes, that, hopefully, will be a big hurdle out of the way if they get all the objectives that they're shooting for. We're very strongly dependant on that flight being a resounding success. Assuming that goes well, and the LEM comes through with flying colors, then I think we'll be ready to step into a mode where we're doing a lot of simulations and actual practice on the mission phases of that. Simulators are pretty much tied up with Apollo 9 and 10, so we're trying to get all the decisions out of the way first, and agree on procedures and techniques that we're going to use.

Q. Neil, when did you know that you were going to be commander of this flight?

A. Oh, about, I don't remember exactly the day, but about 3 or 4 days before you did. And I shouldn't really say that. I knew at that point that I was being proposed for it. And I knew one day before the official announcement that it had been approved.

Q. Well, what were your feelings, were you surprised, overjoyed?

A. I was very pleased. I'd be pleased to put any flight.

Q. But how would you compare the feeling with winning an automobile

or being selected an astronaut?

A. Well, I was very pleased but I shouldn't say wildly elated because facts are, I'd be elated at getting any flight. Now this happens to be a particularly good flight. They're all good flights but this one really is a particularly special one. On the other hand it could just as easily become, depending on how 9 and 10 goes, it could become another Earth orbital flight. I would be--I'd have to be just as happy or at least I'd have to take that with the same emotion that I accepted the responsibility for 11 with. We hope it will be a landing flight, so I have every confidence that it will be a landing flight. But you know, it could turn out to be something else in which case I'll still be very glad to fly.

Q. Well, if it does turn out, you'll go down in history and you'll be famous. In your quiet moments, what kind of thoughts do you have about that?

A. Several people have mentioned that and I really do feel and hope that you all and the public will recognize the thing as a group effort because it really is that. Who the individual happens to be that gets to make first landing, that's happenstance. That's just the way the things fell out. It could just as easily have been the next flight or the one before. It probably depending on how the cards fell, so I see it as a group achievement and I hope you all and the people recognize that it's that and because that would be appropriate and fair.

Q. No, I meant your own quiet feelings, how you look at it yourself as being part of history.

A. I have been thinking about that, about those kind of views for a number of years, but now the time is to think about it in the checklist fashion because the job now is to do it and do it right and that's the way we're bending our efforts.

Q. When you wake up at night and a thought hits you--gosh, suppose that flight is successful, what kind of thoughts go on then?

A. I'm planning on it being successful. Why do you always say suppose that flight will be successful?

Q. No, but I mean successful as a moon landing and all. What kind of thoughts or emotions come over you at that time?

A. Well, I'm certainly not going to say I'm without emotion at that thought because that wouldn't be factual but I think we sort of unconsciously think more about day to day factual things that have to be done--the factual parts of touching down on the surface and doing this and that job--and don't probably think very much about the emotional aspects. Now it will exist. It will exist between now and the flight and will actually exist on the flight itself. As a matter of fact every time I've ever flown in a new airplane no matter how little change it was from something that I had done before, why I've always said in a new one when I get off the ground I look around and say, "By George, I'm really flying it." then proceed on. I suspect that those thoughts will come on Apollo 11, 'By George I'm really here'!

Q. Do you have any sort of concern since you flew this LLTV and had that mishap?

A. I don't have any concern for myself. I have a greater concern, not only for my flight, but for any flight that if we had some kind of problem that--not only the program but the country would feel that tragedy.

Q. Have you been down to the Cape and seen your hardware?

A. Yeah. I have seen some and they're coming along very well. We've had some tests going on this week on both vehicles in the docked configuration. I'm very pleased with the way the tests of the spacecraft have been going.

Q. What does your wife Jan think about you're getting this flight?

A. She was very pleased about it. She wanted to know if I was, too. I said I was.

Q. Is she going to the Cape to watch it go off?

A. I don't know, I haven't specifically asked her but if I had to guess, I'd say probably not.

Q. How does the training schedule look from here to July. Are you going to be ready on time?

A. I can't really say, we may not. We may not make it. We may not be able to get ready in time for the July window. We've got about 900 hours of identified training requirements plus all the ones that you can't identify. And of course there are the uncertainties of changes and so on that will come about as a result of tests and flights between now and July. I really don't know whether we can make it or not. If things go well, it will still be tough. We're trying, we're setting up our training schedule to make the July window, now we can't be sure yet that we will.

Q. What do you think will be the hairiest part of the landing--the most critical part of that last 6 or 7 hundred feet as you go down to the moon?

A. It is true that we have uncertainties in the navigation and we have less fuel margin than you'd like to have at that point in time.

I think I would consider the critical hurdle to get over the transition from automatic to manual control. Assurance that the vehicle was responding the way you wanted it to. I think that once we get in that situation then we'll know at least, whether we can get it on the surface safely with the fuel remaining. As soon as we get past that hurdle and the vehicle is responding, I think we'll feel pretty good about it.

Q. Would you like to have some more time in the LLRV (Lunar Landing Research Vehicle)?

A. Yes, I would.

Q. You probably won't though?

A. I'm hoping that I will, but I don't know.

Q. They're still grounded aren't they?

he did fly it

A. Yes, But I certainly hope they won't be grounded by July.

Q. How many hours have you got now and how many more do you hope to have?

A. I have 20 some flights on the thing right now and I'd like to have maybe that many more.

Q. If it happens that they stay grounded, will that delay Apollo 11 any?

A. I don't think so. We'll just perform it with a little less confidence in our ability to make a successful touchdown and a little higher risk of aborting during the descent.

Q. What about the business of deciding who's going to exit first, assuming that there is a safe touchdown.

A. Well that's going to be decided on the basis of the tests at hand and the most practical method of using the time available to get the most results.

Q. When will the decision be made?

A. I would hope that we'll be able to decide all the details of the flight in the next couple of months.

Q. You'll want to simulate it won't you, before you go?

A. Oh, yeah.

Q. So presumably it will be decided by the time of the first simulation?

A. Well, it's going to be decided on the basis of the simulations that we do here in trying various approaches to performing the activities we'll perform on the lunar surface. The reason we can't answer is it's just not black and white. There's advantages and disadvantages both ways right now and we just don't know.

Q. I was wondering if anybody was proposed for the mission and then got turned down from on high, going out of here?

A. Not to my knowledge.

Q. Did you know ahead of the other two crew members or were you all notified at the same time?

A. I was notified first, I think. At least I was alone at the time.

Q. How did they do it.

A. Deke Slayton said that it was being proposed, to turn our crew around for Apollo 11 and they were going to put Mike Collins back in the slot that he had been removed from. And was that agreeable with me. No objections to that. I was glad not to be out of a job.

Q. And did you pick up the phone and call your wife immediately?

A. No.

Q. No? Did you wait until you got home that night to tell her?

A. Yes.

Q. Do you think anything at all of the dangers of this flight?

A. Sure there's dangers and our business is trying to find out where the danger spots are and make them less dangerous. We spend all our time doing that. It'd be silly to say that we don't think of the dangers because that's what we do all the time. In trying to make them less dangerous and more productive and more efficient. But we don't really think about it from a personal point of view so much-- not from personal danger consideration.

Q. What did you learn from Apollo 8 that will be the most valuable to you as the commander of Apollo 11?

A. We were somewhat concerned about what communications would be like at lunar distance. The manned spaceflight network has the prime navigation, responsibility, that implies communication ability. If that doesn't exist, why then you're left with a single system for navigation namely your own and no alternative, so that was a big question.

Q. Did you get an answer?

A. Yeah, of course, As you probably remember, communications were much better than we expected, or at least much better than I expected. We were very pleased with that. The second thing of real significance was the on-board navigation capability. A lot of people really didn't believe that this business of taking sextant measurements and computing

them in a digital computer would be able to do a good navigation job. But of course, that came through with flying colors, too. It gave us a lot of confidence not only in that particular job but also all the related jobs that you do with the same equipment. On other flights, LEM will be aboard and there will be different programs--different jobs being done by the overall system. Apollo 8 gives us the confidence concerning those things that we haven't done yet. We now feel that we have a lot better chance of doing them because of the performance of that system in the jobs that it did do on 8. So those are the really big things, in my mind we always wonder about propulsion systems in this kind of work. But you get a lot of tests there you see. The propulsion people are really able to test the aspects of their system on the ground and give you a real high competence level that it is, in fact, going to work in the air. That's not so true with a thing like a guidance system. A computer operation you can do underground but there are questions about how the optics work. Can you see stars, can you measure them, can you tell where the horizon is, all those kind of things are completely unknown. You've got no way of finding them out through analysis.

Q. I guess the things that bother you most are the things which you must prove for the first time?

A. You always worry about the things that haven't been done before. That's why we build programs the way we do so you don't take too many new things on any one flight. You just have a limited number of new things that you can prepare for. On new things you have to learn them a lot more deeply than something that's been looked at before. You have to think about all the possibilities and look at the whole spectrum of possible occurrences. After a thing has been demonstrated to work pretty well under a certain load why you sorta take it for granted that that's the mode it's going to work in and you don't worry so much about a lot of these possible side effects.

Q. What do you think is going to be more risky, the landing or the takeoff?

A. Well, the landing is more complex because the system is more complex. But should something go wrong you can abort from it using the ascent engines. That puts it in one pedestal. On the ascent, on the other hand, you have less alternatives. If the engine quits, you're in serious trouble, you know, but everything is simpler so I'd say they're about equal.

Q. Are you going to have any navigation problems? You're going to move out of plane from underneath the command module, so you've got to figure out exactly where you are in relation to the spacecraft for blastoff?

A. Oh, there's a couple of things that we need to prove yet, a couple of unknowns. We know we can align the platform by use of stars when we're in the dark, and not so well in the daytime. After we land, there's some question about platform alignments because in the daytime we may not be able to see stars. We can use a gravity vector to align us. This is something that can be done here on the Earth but it's never really been demonstrated. That's probably the method we'll use. Also, there's several different options on how you can align your platform. It's certainly going to drift some during the time that you're sitting on the lunar surface. But I don't consider it to be a problem. I think we have enough options available to us that we can certainly pick from those, one that's satisfactory. It has to be a yes answer to the question.